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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/731,090	12/10/2003	Hirokazu Nakano	2003_1266A	6637
513	7590	05/25/2005	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			HO, ALLEN C	
2033 K STREET N. W.				
SUITE 800			ART UNIT	PAPER NUMBER
WASHINGTON, DC 20006-1021			2882	

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/731,090

Applicant(s)

NAKANO, HIROKAZU

Examiner

Allen C. Ho

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 10 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 122003.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Specification*

1. The disclosure is objected to because of the following informalities:
  - (1) Paragraph [0003], line 12, "7" should be replaced by --6--.
  - (2) Paragraph [0050], line 10, "21b" should be replaced by --21a--.

Appropriate correction is required.

### *Drawings*

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the multileaf-collimator-position-calculation-unit, the motion-speed-calculating-unit, the motion-speed-limit-establishing-unit, a motion-display-unit, the motion-acceleration-calculating-unit, the motion-acceleration-limit-inputting-unit, the motion-speed-limit-inputting unit, the motion-speed-limit-setting-unit must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the

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drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### *Claim Objections*

3. Claims 7, 9-13, 15-19, and 23 are objected to because of the following informalities: Claims 7, 9-13, 15-19, and 23 recite "in order ... ". This recitation is unclear and should be rewritten. Appropriate correction is required.

### *Claim Rejections - 35 USC § 102*

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Siochi *et al.* (U. S. Patent No. 6,052,430).

With regard to claim 1, Siochi *et al.* disclosed a radiation therapy treatment planning machine comprising: a multileaf-collimator-position-calculation-unit (18) operable to generate multileaf collimator leaf positions as a time series; a motion-speed-calculating-unit (18) operable to calculate leaf motion speed based on the generated time series leaf positions; a motion-speed-limit-establishing-unit (18) operable to establish a motion speed limit of the leaves; and a motion-display-unit (70) operable to indicate leaf motion information and to indicate the motion information of an area where the calculated motion speed exceeds the established motion speed limit. Note: Language, such as "operable to" or "capable of", that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. MPEP § 2106. In the present situation, the computer (18) disclosed by Siochi *et al.* is operable to perform any calculation when programmed. The applicant is advised to amend the claims so that the limitations are positively recited.

With regard to claim 2, Siochi *et al.* disclosed the radiation therapy treatment planning machine according to claim 1, wherein the motion-speed-limit-establishing unit comprises a motion-speed-limit-inputting unit (19) operable to input a motion speed limit of the leaves as the established motion speed limit.

With regard to claim 3, Siochi *et al.* disclosed the radiation therapy treatment planning machine according to claim 2, further comprising: a motion-acceleration-calculating-unit (18) operable to calculate leaf motion acceleration based on the time series leaf positions generated by the multileaf-collimator-position-calculation-unit; and a motion-acceleration-limit-inputting-unit (19) operable to input a motion acceleration limit of the leaves.

With regard to claim 4, Siochi *et al.* disclosed the radiation therapy treatment planning machine according to claim 1, wherein the motion-speed-limit-establishing-unit comprises a motion-speed-limit-setting-unit (19) operable to set a predetermined motion speed limit of the leaves as the established motion speed limit.

With regard to claim 5, Siochi *et al.* disclosed the radiation therapy treatment planning machine according to claim 4, further comprising: a motion-acceleration-calculating-unit (18) operable to calculate leaf motion acceleration based on the time series leaf positions generated by the multileaf-collimator-position-calculation-unit; and a motion-acceleration-limit-setting-unit (18) operable to set a predetermined motion acceleration limit of the leaves.

With regard to claim 6, Siochi *et al.* disclosed the radiation therapy treatment planning machine according to claim 1, further comprising: a motion-acceleration-calculating-unit (18) operable to calculate leaf motion acceleration based on the time series leaf positions generated by the multileaf-collimator-position-calculation-unit.

With regard to claim 7, Siochi *et al.* disclosed a radiation therapy treatment planning machine comprising: a multileaf-collimator-position-calculation-unit (18) operable to generate multileaf collimator leaf positions as a time series; a motion-speed-calculating-unit (18) operable to calculate leaf motion speed based on the generated time series leaf positions; a motion-speed-limit-establishing-unit (18) operable to establish a motion speed limit of the leaves; and a leaf-position-correction unit (18) operable to correct the leaf positions of an area, where the calculated motion speed exceeds the established motion speed limit, in order for the leaf motions speed to be equal or less than the established motion speed limit.

With regard to claims 8-13, Siochi *et al.* disclosed the radiation therapy treatment planning machine according to claim 7, wherein the motion-speed-limit-establishing-unit comprises a motion-speed-limit-inputting-unit (19) operable to input a motion speed limit of the leaves as the established speed limit.

With regard to claims 14-19, Siochi *et al.* disclosed the radiation therapy treatment planning machine according to claim 7, wherein the motion-speed-limit-establishing-unit comprises a motion-speed-limit-setting-unit (18) operable to set a predetermined motion speed limit of the leaves as the established motion speed limit.

With regard to claims 20-22, Siochi *et al.* disclosed a radiation therapy treatment planning machine comprising: a multileaf-collimator-position-calculation-unit (18) operable to generate multileaf collimator leaf positions as a time series; a motion-acceleration-calculating-unit (18) operable to calculate leaf motion acceleration based on the generated time series leaf positions; a motion acceleration-limit-establishing-unit (18) operable to establish a motion acceleration limit of the leaves; and a motion-display-unit (70) operable to indicate leaf motion information of an area where the calculated motion acceleration exceeds the established acceleration limit.

With regard to claims 23-25, Siochi *et al.* disclosed a radiation therapy treatment planning machine comprising: a multileaf-collimator-position-calculation-unit (18) operable to generate multileaf collimator leaf positions as a time series; a motion-acceleration-calculating-unit (18) operable to calculate leaf motion acceleration based on the generated time series leaf positions; a motion-acceleration-limit-establishing-unit (18) operable to establish a motion acceleration limit of the leaves; and a leaf-position-correction-unit (18) operable to correct the

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leaf positions of an area, where the calculated motion acceleration exceeds the established motion acceleration limit, in order for the leaf motion acceleration to be equal or less than the established motion acceleration limit.

*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen C. Ho whose telephone number is (571) 272-2491. The examiner can normally be reached on Monday - Friday from 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward J. Glick can be reached at (571) 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Allen C. Ho  
Primary Examiner  
Art Unit 2882

20 May 2005